

**CLAIMS**

What is claimed is:

- 1           1.       A circuit board module, comprising:  
2               a circuit board that includes a processor and memory; and  
3               a connector panel that provides access to connectors that are connected to the  
4 circuit board, wherein the connector panel and the circuit board are connected  
5 together so as to form a single, integrated unit that can be installed in a computer.
- 1           2.       The module of claim 1, wherein the connectors are mounted to the  
2 circuit board.
- 1           3.       The module of claim 1, wherein the circuit board further comprises  
2 openings that are adapted to receive fasteners that are used to secure the circuit board  
3 to a computer chassis.
- 1           4.       The module of claim 1, wherein the circuit board is a computer  
2 motherboard.
- 1           5.       The module of claim 1, wherein the connector panel comprises  
2 openings with which the connectors are aligned or extend through.
- 1           6.       The module of claim 1, wherein at least one connector is attached to  
2 the connector panel.

1           7.       The module of claim 6, wherein the at least one connector is also  
2       mounted to the circuit board so as to securely connect the connector panel to the  
3       circuit board.

1           8.       The module of claim 1, wherein the connector panel comprises  
2       connection elements that are configured to connect the panel to a computer chassis.

1           9.       The module of claim 8, wherein the connection elements include tabs  
2       that are configured for receipt by slots of a computer chassis.

1           10.      A motherboard module separate from a computer, the module  
2       comprising:

3           a computer motherboard that includes a processor and memory, the  
4       motherboard having input/output connectors mounted adjacent a rear edge of the  
5       motherboard; and

6           a connector panel having openings that are configured to receive the  
7       input/output connectors mounted to the motherboard so as to provide access to the  
8       connectors to a computer user, the connector panel further comprising connection  
9       elements that are configured to connect the panel to a computer chassis;

10          wherein the motherboard and the connector panel are connected together so as  
11       to form a single, integrated unit in which the rear edge of the motherboard aligns with  
12       the connector panel and the motherboard extends normal from the connector panel.

1           11.     The module of claim 10, wherein the motherboard further comprises  
2     openings that are adapted to receive fasteners that are used to secure the motherboard  
3     to a computer chassis.

1           12.     The module of claim 10, wherein at least one connector mounted to the  
2     motherboard is also attached to the connector panel to securely connect the connector  
3     panel to the motherboard.

1           13.     The module of claim 10, wherein the connection elements include tabs  
2     that are configured for receipt by slots of a computer chassis.

1           14.     A computer, comprising:  
2             an outer housing;  
3             a chassis mounted within the outer housing; and  
4             a pre-assembled motherboard module that includes a motherboard that is  
5     mounted within the chassis and a connector panel that is accessible from the exterior  
6     of the computer, the motherboard and the connector panel being connected together to  
7     form a single, integrated unit, the motherboard including a processor, memory, and  
8     input/output connectors, the connector panel providing access to the motherboard  
9     connectors.

1           15.     The computer of claim 14, wherein the connectors are mounted to the  
2     motherboard.

1           16.     The computer of claim 14, wherein the circuit board further comprises  
2     openings that are adapted to receive fasteners that are used to secure the circuit board  
3     to the chassis.

1           17.     The computer of claim 14, wherein at least one connector is attached to  
2     the connector panel.

1           18.     The computer of claim 17, wherein the at least one connector is also  
2     mounted to the motherboard so as to securely connect the connector panel to the  
3     motherboard.

1           19.     The computer of claim 14, wherein the connector panel and the chassis  
2     comprise connection elements that are configured to connect the panel to the  
3     computer chassis.

1           20.     The computer of claim 18, wherein the connection elements include  
2     tabs on one of the connector panel and the chassis and slots on the other of the  
3     connector panel and the chassis.

1           21.     A method of manufacturing a computer, the method comprising:  
2     pre-assembling a motherboard module comprising a motherboard and an  
3     integral connector panel; and  
4     installing the motherboard module as a single unit in a computer chassis.

1           22.     The method of claim 21, wherein pre-assembling a motherboard  
2     module comprises mounting the connector panel to the motherboard by securing a  
3     connector that is mounted to the motherboard to the connector panel.

1           23.     The method of claim 21, wherein installing the motherboard module  
2     comprises inserting the motherboard module into the computer chassis without  
3     angling the module as it is inserted.

1           24.     The method of claim 21, wherein installing the motherboard module  
2     comprises attaching the connector panel of the motherboard module to the computer  
3     chassis using tabs provided on one of the connector panel and the chassis.

1           25.     The method of claim 24, wherein installing the motherboard module  
2     further comprises securing the motherboard to the chassis with threaded fasteners.